

Reflection & VSWR

Electrical Engineering

One mismatch expressed four ways, so any figure reads at sight.

Reflection coefficient, standing wave ratio and return loss all describe one thing.

Reflection $ \Gamma $	VSWR	Return loss
0	1.00	Infinite, perfect
0.1	1.22	20 dB
0.2	1.50	14 dB
0.33	2.00	9.5 dB
0.5	3.00	6 dB
1	Infinite	0 dB, total

$\Gamma = (Z_L - Z_0)/(Z_L + Z_0)$. A VSWR of 2 sounds poor but still delivers about 89% of the incident power to the load.